WHAT IS CLAIMED IS

1. A solid-state image pickup device, characterized by comprising:

a plurality of two-dimensionally-arranged photoelectric conversion elements;

gate portions for reading out signal charges that are photoelectrically-converted by said plural photoelectric conversion elements;

plural vertical transfer registers for transferring in the vertical direction the signal charges read out by said gate portions; and

first transfer electrodes and second transfer electrodes to which driving voltages to transfer the signal charges of said vertical transfer registers are applied, wherein said first transfer electrodes are disposed in parallel to said vertical transfer registers, said second transfer electrodes are disposed vertically to said vertical transfer registers, said first transfer electrodes and said second transfer electrodes are provided so as to contain the upper side of said gate portions, and the signal charges which are photoelectrically-converted in said photoelectric conversion elements are read out to said vertical transfer registers by the driving voltages applied to both said first transfer electrodes and said second transfer electrodes, the first transfer electrode or the second transfer electrode at the gate

portion side of each photoelectric conversion element and the sensor area of the photoelectric conversion element are formed to be adjacent to each other at a portion where the read-out of the signal charges to each vertical transfer register is carried out, and an offset area is formed between the transfer electrode at the gate portion side of each photoelectric conversion element and the sensor area of the photoelectric conversion element at a portion where the read-out of the signal charges to each vertical transfer register is not carried out.

2. The solid-state image pickup device as claimed in claim 1, wherein a second offset area is provided between said first transfer electrode and said second transfer electrode at the opposite side to said gate portion with respect to each photoelectric conversion element and said sensor area of said photoelectric conversion element.

3. The solid-state image pickup device as claimed in claim 1, wherein at the portions where the read-out of the signal charges to said vertical transfer registers is carried out, said transfer electrodes at the gate portion side of each photoelectric conversion element are formed so as to extend to the sensor area side of the photoelectric conversion element.

4. The solid-state image pickup device as claimed in claim 1, wherein at the portions where the read-out of the signal charges to said vertical transfer registers is carried

out, the sensor area of each photoelectric conversion element is formed so as to extend to the gate portion side.

5. A method of driving a sold-state image pickup device comprising a plurality of two-dimensionally arranged photoelectric conversion elements, gate portions for reading out signal charges photoelectrically-converted in the plural photoelectric conversion elements, plural vertical transfer registers for transferring the signal charges read out by the gate portions in the vertical direction, and first and second transfer electrodes on the vertical transfer registers, wherein a first driving voltage for transferring the signal charges in the vertical direction is applied to the first and second transfer electrodes, and a second driving voltage for reading out the signal charges from the photoelectric conversion elements is applied to the first and second transfer electrodes, whereby the read-out operation of the signal charges which are photoelectrically-converted by the photoelectric conversion elements to the vertical transfer registers is carried out on the plural photoelectric conversion elements independently every column or/and every line by the driving voltages applied to both the first and second transfer electrodes.